

# Duwamish-Green Watershed, WRIA 9

This focus sheet provides information on the availability of water for new uses in the Duwamish-Green Watershed. This information provides a starting point for potential water users in determining the best strategies for securing water for a future project or proposal in this area.

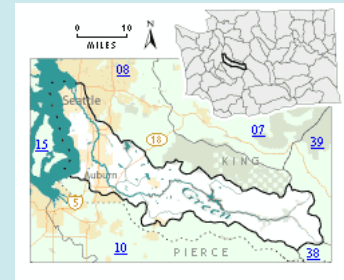
The Duwamish-Green Watershed, also known as Water Resource Inventory Area 9 (WRIA 9), is situated in southern Puget Sound and comprises most of southern King county, including south Seattle and its adjacent suburban areas of Kent, Des Moines, Covington and other cities. On its west side it is bounded by Puget Sound and its east side includes portions of the Cascade Mountain range. This watershed has a large amount of urban development and high population density on its west side.

This watershed includes only one major river, The Duwamish-Green River which originates in the Cascade Mountains. The Green River is the source for much of the drinking water for the Tacoma area and includes the Howard A. Hanson Dam which is used for flood control and reservoir purposes. The watershed includes various smaller streams such as Jenkins, Little Soos, Newaukum and Boundary creeks.

Average precipitation ranges from 30-35 inches per year in the coastal areas to 70 inches in the mountains. Most of this precipitation arrives during the winter months when water demands are the lowest, and only a fraction becomes available for human and economic uses. During the summer, the snowpack is gone; there is little rain so low stream flows are dependent on groundwater inflow. This means that groundwater and surface water are least available when water demands are the highest.

## Factors affecting water availability

Most water in the watershed is already legally spoken for. Increasing demands for water from ongoing population growth, declining groundwater levels in some areas and the impacts of climate change add to the challenge of finding new water supplies in WRIA 9. The Duwamish-Green Watershed increasingly lacks water when and where it is needed, particularly during the summer months.



## Definitions

**Instream flow:** A stream flow protected in a rule. These rules specify the amount of water needed in a particular place for a defined time, and typically follow seasonal variations. They are the flow levels needed in the river to protect and preserve instream resources and uses.

**Mitigation plan:** A scientifically-sound plan intended to avoid impairment to existing water rights or capturing water from a closed source.

**Non-consumptive use:** A use of water that does not diminish the quantity or quality of water in the water source.

**Permit-exempt well:** The state Ground Water Code allows for certain uses of small quantities of groundwater without obtaining a permit from Ecology. (RCW 90.44.050)

**Seawater intrusion:** The movement of salt water into freshwater aquifers.

**Instream Resources Protection Program rule**

WRIA 9 has an Instream Resources Protection Program rule (WAC 173-509) to protect senior water rights, maintain a healthy ecosystem and to meet future water resource management objectives. Such rules are required by state law (RCW 90.54).

The rule establishes instream flows on the Green and Duwamish rivers. Historically, both rivers have low flows in the summer months. Therefore, all new withdrawals from these rivers will be subject to interruption when flows are below the instream flow levels.

The tributaries of the Green and Duwamish rivers are closed to any new withdrawals.

In addition, the following surface water bodies have been closed based on recommendations by the Washington Department of Fish and Wildlife: Deep, Des Moines, Garrison, Miller (Maybrook) and Springbrook Creeks.

Obtaining a new non-interruptible (year-round) water right in this area will be a very difficult, expensive and lengthy process due to potential adverse impacts on these protected streams and rivers. It is likely that applicants will need to mitigate to secure a non-interruptible supply.

**Tribal Reservation and involvement**

The Muckleshoot Indian Reservation lands are partially located in WRIA 9. Federally Reserved Rights are not quantified at this time and thus the legal availability of water in these areas is undetermined. The Tribe is very concerned about maintaining flows and fish habitat in the basin. Water right applications and mitigation plans are routinely sent to the Tribe for review.

**Coastal areas of Puget Sound**

Any water withdrawals located in the coastal areas of Puget Sound are evaluated for the risk of seawater intrusion into existing fresh groundwater supplies. Coastal applicants may need to develop an adequate mitigation plan to address this risk.

**Water available for new uses**

Groundwater is available for future use as long as such withdrawals will not have an adverse impact upon stream flows in the Duwamish-Green which are protected by the instream flow rule. Since groundwater and surface water are closely connected in this basin, there is a high likelihood that groundwater withdrawals would not be approved without some form of mitigation.

There is water available for single domestic in-house use, and for stock watering except as related to feedlots. Water for non-consumptive uses (such as power generation) is still available, pending approval from the Department of Ecology.

Storage projects may be approved if they do not conflict with the instream flow rule for the Duwamish-Green River or the established stream closures.

## Additional options for processing water right applications

Connecting to an established water supplier for your new water use is often the fastest and simplest option.

The groundwater permit exemption allows certain users of small quantities of groundwater (most commonly, single residential well owners) to construct wells and develop their water supplies without obtaining a water right permit from Ecology. For more information about the groundwater permit exemption, refer to [www.ecy.wa.gov/pubs/fwr92104.pdf](http://www.ecy.wa.gov/pubs/fwr92104.pdf).

The permit exemption may not be available to prospective water users in certain areas that have been closed to further appropriation because there is limited or no water available. Check with Ecology staff at the regional office for more information.

Additional options for more expedited processing of new or change applications include processing your application through the Cost Reimbursement Program. [www.ecy.wa.gov/pubs/0511016.pdf](http://www.ecy.wa.gov/pubs/0511016.pdf). The applicant may need to develop mitigation to offset the impacts of their water use to surface water.

For more information on these and other options, refer to “Alternatives for Water Right Application Processing” [www.ecy.wa.gov/pubs/1111067.pdf](http://www.ecy.wa.gov/pubs/1111067.pdf).

## Pending water right applications in this watershed

Washington water law is based on the “prior appropriation” system, often called “first in time, first in right.” Applications for water from the same source must be processed in the order they are received. (There are certain exceptions, see “Additional options for processing water right applications” above.)

Ecology asks anyone who needs a water right (new, change, or transfer) to submit the pre-application consultation form and meet with us to review your water supply needs and project proposal.

- Apply for a New Water Right  
<http://www.ecy.wa.gov/programs/wr/rights/newrights.html>
- Apply to Change or Transfer a Water Right or Claim  
[http://www.ecy.wa.gov/programs/wr/rights/change\\_transfer\\_use.html](http://www.ecy.wa.gov/programs/wr/rights/change_transfer_use.html)

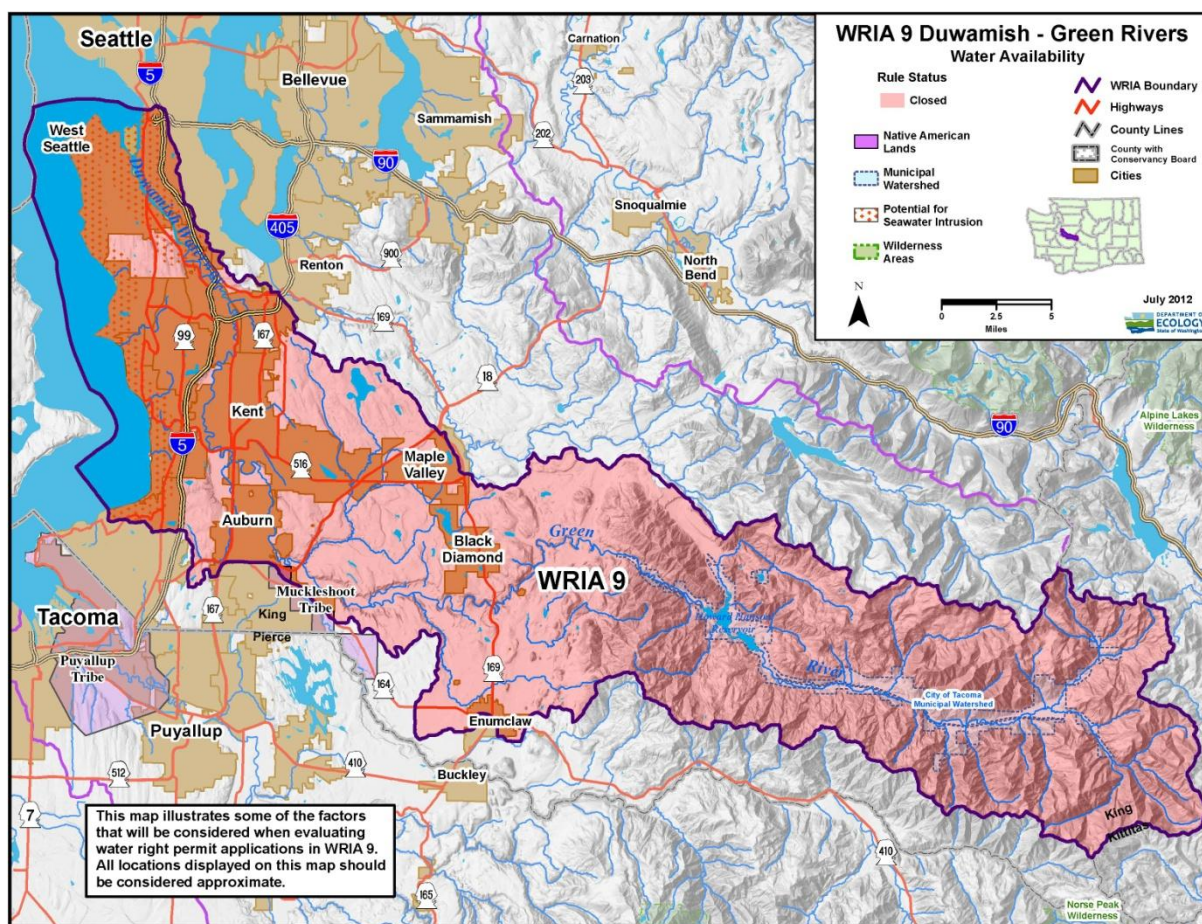
The map in this document shows some of the factors that will be considered when evaluating water right permit applications. Here are some information sources to assist you with your research:

- Locate and research water rights on land parcels anywhere in the state (Water Resource Explorer)  
<http://www.ecy.wa.gov/programs/wr/info/webmap.html>
- Pending Water Right Applications by County  
<http://www.ecy.wa.gov/programs/wr/rights/tracking-apps.html>
- Subscribe to a water right application RSS feed for a county or WRIA  
[http://www.ecy.wa.gov/programs/wr/rights/wr\\_app\\_rss.html](http://www.ecy.wa.gov/programs/wr/rights/wr_app_rss.html)

- WRIA map showing the total number of water right claims, certificates, permits and applications  
<http://www.ecy.wa.gov/programs/wr/rights/Images/pdf/waterright-wria-maps.pdf>
- Search and view well reports using a variety of search tools  
<https://fortress.wa.gov/ecy/waterresources/map/WCLSWebMap/default.aspx>

## For more information

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Water Resources Program  
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425-649-7000



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